

REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed November 7, 2008. Through this response, claims 18-22, 25, 32 and 48 have been amended; claims 1-17 and 33-47 have been withdrawn without prejudice, waiver, or disclaimer; and no new claims have been added. Reconsideration and allowance of the application and pending claims are respectfully requested.

I. Election of Claims

Applicant appreciates the Examiner's indication that the election with traverse of Group II, claims 18-32 and 48-53 in the reply filed on July 23, 2008 is acknowledged.

II. Typographical error

Claim 25

Claim 25 has been amended to correct a typographical error. No new material has been added.

III. Claim Rejections - 35 U.S.C. § 112, Second Paragraph

Claims 19, 32 and 48

Claim 19 has been rejected under 35 U.S.C. § 112, second paragraph, as being allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. In particular, the Examiner states that the recitation "a surface of the ... structure" is confusing as to whether the recited surface is the same or different from the identical surface recited in claim 18.

Applicant respectfully traverses the rejection. In response to this rejection, Applicant has amended Claim 19 to clarify that the surface in Claim 19 is the same as the surface of Claim 18. It is believed that this rejection has been overcome, and it is therefore respectfully requested that Claim 19, as amended, be reconsidered and that it be allowed.

Claims 32 and 48 have been rejected under 35 U.S.C. § 112, second paragraph, as being allegedly indefinite for failing to provide antecedent basis for the elements “the inner UV light source” and “the photohydroionization cell”, respectively.

Applicant respectfully traverses the rejection. In response to this rejection, Applicant has amended Claims 32 and 48 to provide antecedent basis. Applicant respectfully asserts that one of ordinary skill in the art would have been apprised of the invention as originally provided.

In view of these amendments, it is respectfully asserted that Claims 19, 32 and 48 define the invention in the manner required by 35 U.S.C. § 112. It is believed that this rejection has been overcome, and it is therefore respectfully requested that Claims 19, 32 and 48, as amended, be reconsidered and that they be allowed. Accordingly, Applicant respectfully requests that the rejection to this claim be withdrawn.

III. Claim Rejections - 35 U.S.C. § 103(a)

A. Claims 18-20, 22 and 23

Claims 18-20, 22 and 23 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Roberson et al.* (U.S. Pat. No. 4,892,712) (“*Roberson*”) in view of *Speer* (U.S. Pat. No. 6,315,963) (“*Speer*”). Applicant respectfully traverses this rejection.

Claim 18, as amended, is the independent claim upon which the rejected Claims 19-20, 22 and 23 depend. The dependent claims recite additional limitations which, in conformity with the features of their corresponding independent claims as amended, are not disclosed or suggested by

the art of record. The dependent claims are therefore believed patentable. However, the individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

Independent Claim 18 recites features including a surface of a catalytic target structure “having pleatings whereby the pleatings generally surround a circumference of the ultraviolet light source” which are not disclosed or suggested by *Roberson*. Thus, the rejected dependent claims are not unpatentable over *Roberson*. Furthermore, since *Speer* does not teach or suggest pleatings that generally surround a circumference of the ultraviolet light source, the dependent claims are not patentable in further view of *Speer*.

In fact, *Speer* also teaches away from pleatings which generally surround a circumference of the ultraviolet light source. In *Speer*, a target is taught which has “accordion-shaped” pleatings down the length of the UV light source. By using an accordion-shaped target, *Speer* has wide open areas where the UV light does not impinge upon the target result. (See Abstract and Fig. 3B). An accordion-like folding down the length of the UV light source would not allow pleatings to surround the circumference of a UV light source. Moreover, the pleatings in the present invention provide for a maximized surface area for the target to be impinged upon by the UV light. This geometry is lacking in both *Roberson* and *Speer*.

Thus, the combination of *Roberson* and *Speer* do not teach or suggest all of the features in the claims under consideration, as amended. Applicant thus respectfully submits that the asserted combination of references does not disclose at least the aforementioned features of the rejected claims, as amended. Thus, this rejection has been traversed.

In summary, it is Applicant’s position that a *prima facie* for obviousness has not been made against Applicant’s claims. Therefore, it is respectfully submitted that each of these claims is

patentable over *Roberson*, in view of *Speer*, and that the rejection of these claims should be withdrawn.

B. Claims 18-23 and 27-32

Claims 18-23 and 27-32 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Say et al.* (U.S. Pat. No. 6,063,343) ("*Say*") in view of *Speer* and *Kim* (WO 02/102497) ("*Kim*"). Applicant respectfully traverses this rejection.

Claim 18 is the independent claim upon which the rejected claims depend. The dependent claims 19-23 and 27-32 recite additional limitations which, in conformity with the features of the corresponding independent claim are not disclosed or suggested by the art of record. Dependent claims 19-23 and 27-32 are therefore believed patentable for the reasons that Claim 18, as amended, is patentable. However, the individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

None of the cited references in this rejection teach or suggest a one-piece catalytic target structure which has "pleatings whereby the pleatings generally surround a circumference of the ultraviolet light source". *Say* teaches a series of fins (102). A series of fins in fact teaches away from a one piece structure having pleatings, as it is neither a one-piece construction nor a pleated structure. Similarly, *Kim* teaches no one-piece pleated structure whereby the pleatings generally surround a circumference of the ultraviolet light source.

In summary, it is Applicant's position that a *prima facie* for obviousness has not been made against Applicant's claims. Therefore, it is respectfully submitted that each of these claims is patentable over *Say* in view of *Speer* and *Kim*, and that the rejection of these claims should be withdrawn.

C. Rejection of Claims 24-26

Claims 24-26 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Say* in view of *Speer* and *Kim* and further in view of *Miller* (U.S. Pat. No. 6,053,968) ("*Miller*"). Applicant respectfully traverses this rejection.

Claim 18 is the claim upon which the rejected claims depend. The dependent claims 24-26 recite additional limitations which, in conformity with the features of the corresponding independent claim are not disclosed or suggested by the art of record. Also, Claim 25 has been amended to correct a typographical error. Dependent claims 24-26 are believed patentable for the reasons that Claim 18, as amended, is patentable. However, the individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

D. Rejection of Claims 48-51

Claims 48-51 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Say* in view of *Speer*, *Kim* and *Miller*. Although the Examiner does not directly address the rejection of Claims 52-53 in the Office Action, the claims are listed as rejected on the cover sheet. Applicant respectfully traverses the rejection of Claims 48-53.

Claim 18, as amended, is the independent claim upon which the rejected claims 19-20, 22 and 23 depend. The dependent claims recite additional limitations which, in conformity with the features of their corresponding independent claims as amended, are not disclosed or suggested by the art of record. The dependent claims are therefore believed patentable. However, the individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

The independent claim recites features elements including a surface of a catalytic target structure "having pleatings whereby the pleatings generally surround a circumference of the ultraviolet light source" which are not disclosed or suggested by any of the cited references. Thus,

the rejected dependent claims are not unpatentable over *Roberson*. Furthermore, since none of the other references teach or suggest pleatings that generally surround a circumference of the ultraviolet light source, the dependent claims are not patentable in further view of the other references.

In Claims 50, 52 and 52 recite an element of an adjustable power supply connected to the UV light source. Among several other reasons, this element allows for adjustment of the power output of the UV light source. This adjustment may be done automatically or manually. The adjustment may be based upon time or upon the load of volume of air going through the system or other reasons as desired by the operator. Furthermore, the adjustment may be made to compensate for the decrease in efficiency that may occur for UV light sources over time. Importantly, however, the adjustable power supply in connection with the UV light source is absent from any of the cited prior art.

For all of the foregoing reasons, it is Applicant's position that a *prima facie* for obviousness has not been made against Claims 48-52. Therefore, it is respectfully submitted that each of these claims is patentable over *Say* in view of *Speer* and *Kim*, and that the rejection of these claims should be withdrawn.

CONCLUSION

Applicant respectfully submits that all of Applicant's remaining pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephone conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney. *See* MPEP § 706.07(f)III.

The Commissioner is hereby authorized to credit overpayments or charge payment of any additional fees associated with this communication to Deposit Account No. 50-4000.

Respectfully submitted,

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